REMARKS

Reconsideration is respectfully requested. On entry of this amendment, claims 1, 3, 4, 6, 19, 52, 53 and 55 are amended. Claims 32-35, 40-42 and 56 are cancelled. Claims 2, 5, 7-18, 22-30, 44-51, 57 and 58 were previously cancelled. Claims 1, 3, 4, 6, 19-21, 31, 36-39, 52, 53, and 55 are currently under examination.

The amendments herein to the above-mentioned claims only clarify the subject matter of the present invention and are not made for purposes of patentability. No subject matter has been disclaimed, and the amendment of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. No new matter has been added. Applicants expressly reserve the right to pursue identical or similar claims in other patent applications that are identical or similar to the claims amended or canceled in this response.

35 U.S.C. § 103(a)

Applicants thank the Examiner for the withdrawal of the rejection of claims 1, 3, 4, 6, 19-21, 31, 36-39, 52, 53 and 55 under 35 U.S.C. § 103(a) as being unpatentable over Bolognesi, et al. (1996) in view of Krantz, et al. (2000)..

The Examiner has rejected claims 1, 3, 4, 6, 19-21, 31, 36-39, 52, 53 and 55 under 35 U.S.C. § 103(a) as being unpatentable over Bolognesi, et al. (1996) in view of Tolman, et al. (1993).

Applicants respectfully submit that the elements of the *prima facie* case of obviousness are simply not present for claims 1, 3, 4, 6, 19-21, 31, 36-39, 52, 53 and 55 in their current format. Specifically, 1) none of the cited references teach or suggest all the claim limitations, 2) the prior art combined with general knowledge fails to include a suggestion or incentive to modify the

references, and 3) the references fail to teach that the modification would have a reasonable chance of success.

First, the cited prior art references fail to teach all elements of the claimed invention as amended. Claims 1, 3, 4, 6, 19-21, 31, 36-39, 52, 53 and 55 have been amended to recite that the "peptide is covalently bonded to a blood component." Bolognesi, et al. disclose HIV derived peptide sequences, and Tolman, et al. disclose the preparation of an HIV vaccine by creating a "co-conjugate" between antigenic cyclic peptides and a bacterial carrier protein, OMPC. Bacteria do not have blood and thus do not have blood components. As such, OMPC is not a blood component. Neither Bolognesi, et al. nor Tolman, et al. teach or suggest a peptide covalently bonded to a blood component.

The references, in combination, thus fail to teach all elements of the claimed invention

Second, the references, separately or in combination, fail to provide the requisite motivation to combine their teachings to make the claimed invention. Specifically, none of the references cited by the Examiner provides one of ordinary skill in the art with motivation to conjugate HIV derived peptide sequences with a blood component.

Bolognesi, et al. fail to provide the requisite motivation to combine, as they simply disclose HIV derived peptide sequences, with no suggestion or motivation to conjugate to anything at all.

Similarly, Tolman, et al. fail to provide the requisite motivation to combine, as they do not teach or suggest the coupling of an HIV derived peptide to a blood component. Instead, Tolman, et al. teach conjugation to one specific bacterial protein, OMPC, for use as a vaccine. The conjugation of peptide sequences to carrier proteins such as OMPC for vaccine production is a common technique employed to promote development of an immune response by a host. Bacterial proteins are utilized because they are different than the host's blood components and will facilitate generation of an immune response As such, the bacterial protein OMPC in Tolman, et al. was specifically chosen because it is different than blood components and would therefore facilitate

generation of an immune response. In contrast, in the present invention, HIV peptides are conjugated to blood components to increase the half life of the HIV peptides while minimizing any immune response. Blood components will generally not elicit an immune response because they are highly similar if not identical to endogenous proteins. As such, in the present invention, blood components are conjugated to the HIV peptides rather than to the bacterial protein of Tolman, et al. in order to minimize any immune response of the conjugate upon its introduction into a host. Tolman, et al. teach away from the use of blood components.

Because the bacterial protein of Tolman, et al and the blood component of the present invention are used for completely different purposes, neither Tolman et al. or Bolognesi, et al. provide the requisite motivation to conjugate HIV peptides to blood components in order to increase the half-life of HIV derived peptides while minimizing an immune response.

Third, the combined prior art teachings provide no reasonable expectation that the combination will succeed.

Nothing in the two references cited by the Examiner suggests that one of ordinary skill in the art would have a reasonable expectation of success in produced the claimed invention (an HIV peptide conjugated to a blood component). Combining the teachings of Tolman. et al. and Bolognesi, et al. would produce a peptide-bacterial protein conjugate for generating an immune response, not a peptide that retains its therapeutic activity with an increased in vivo half life while minimizing an immune response.

In view of the claim amendments and the foregoing arguments, Applicants request that the rejection under 35 U.S.C. §103 be withdrawn.

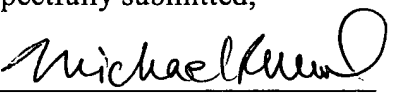
CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. **500862001520**. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: March 15, 2005

Respectfully submitted,

By 

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